ENTOMOLOGICAL NEWS

AND

PROCEEDINGS OF THE ENTOMOLOGICAL SECTION,

ACADEMY NATURAL SCIENCES, PHILADELPHIA.

VOL. I. SEPTEMBER, 1890. No. 7.

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WINTER COLLECTING IN FLORIDA.

BY ANNIE TRUMBULL SLOSSON.

(Continued from p. 83, vol. i.)

To attract moths at night we used a large lamp with Rochester burner, giving a very brilliant light. The first time we tried it very few insects came, though the night seemed favorable, warm, dark and still. After waiting an hour or two, with little gain, we extinguished the lamp preparatory to going indoors, when, at once, moths began flying into the dimly-lighted windows and resting there. This occurred again and again, until we felt assured that our brilliant light frightened away rather than tempted the moths of Punta Gorda. It was not until some weeks after our discovery of this fact that we read in ENTOMOLOGICAL NEWS for February of Mr. Doherty's letter as to his collecting in the Naga Hills. In this you will remember he expresses the opinion that "light used in out-of-the-way places repels rather than attracts." I frequently spent an evening in my room with a bright gas-light and a large kerosene lamp burning directly in front of the open window. No insects came, but when I had turned out the gas and lowered the flame of my lamp, moths would soon begin to fly in.

At sugar, although the number of moths taken was large, the variety was very small. In a catch of fifty or sixty moths there would often be but two or three species. *Eubolina stylobata* was always at these sugar stations in large numbers, also *Agrotis incivis*, *A. malefida* and various species of Homoptera, particularly *H. edusina* and *H. benesignata*.

The colony of West Indian insects, of which Mr. Schwartz and others have written, is well represented at Punta Gorda. I found one night resting near a lighted window a beautiful specimen of the "Spanish moth," *Euthisanotia timais* Cram. It bore the bloom of extreme youth, and could not have emerged from the pupa many hours before. It is an exquisite creature, with its fore wings of carmine and orange and secondaries of leaden black.

I took also one specimen of a Sphingid described and figured by Grote in his "Notes on Cuban Sphingidæ (Proc. Ent. Soc. Phil. vol. v)," *Hemeroplanes pseudothyreus*. I do not recall its record from Florida previous to my capture, but it should have its place in our lists. It is a curious insect, much like *Thyreus* in general appearance, but with a peculiar discal mark, like a white arrow-head, with a small white dash above it. Many fine fresh specimens of the large geometer *Oxydia vesuliata* Cram. flew to the lighted windows at night. They are exceedingly variable, some very dark purple-brown, some uniformly light grayish drab, and others with median space of pale ochre, but all with the distinctive large, black, diffuse patch on secondaries, near outer margin. I found also *Urapteryx floridata* Gr.

Doubtless many of my unidentified moths will prove to be West Indian forms. Although I found so many interesting species in Florida this Winter, yet insects were much less plentiful than in ordinary seasons. The long continued drought, with one or two severe freezes, interfered seriously with plant and insect life. In a dozen years I have never seen a Winter where butterflies were so scarce; every one spoke of this, and even the ordinary tourist noticed it.

ELEMENTARY ENTOMOLOGY.

Third Paper—Regions and Appendages of Insects.

The Head.

As stated in the first paper of this series,* the body of a per-

* Entomological News, i, pp. 70–71. May, 1890.

fect insect is divided into three regions,—the head, the thorax and the abdomen.

This division into regions is not to be confounded with the division into segments; each region consists of a number of segments. In the case of those insects undergoing a complete transformation (butterflies, bees, beetles, etc.), it is only the imago whose body shows clearly this division into three regions. On the other hand, the larvæ of such insects as dragonflies and grasshoppers, whose transformation is incomplete, show a very marked division into three regions, even when just hatched from the egg. The tri-regional division of the body may be more or less clearly perceived in those insects referred to in the first paper as passing through two states,—fish moths and spring tails.

Many of the segments of an insect's body bear paired, jointed appendages, one pair to a segment. These appendages may be antennæ ("feelers"), jaws, legs, claspers, etc. The wings, although often spoken of as appendages, do not anatomically correspond, or are not *homologous** to the appendages just referred to.

The form, proportion, shape and relative development of the different parts of the trunk and appendages of insects vary very greatly. Only the more general, typical arrangement of these parts will be described in these papers treating of insects in general. The modifications must be left to subsequent papers on the separate orders. In these general papers reference is usually made to the imago, when describing anatomical parts.

THE HEAD of the imago is usually distinct from the rest of the body. The segments of which it is composed are not easily distinguishable, owing to the sutures being more or less obliterated, and one might be tempted to say at first sight, that it consisted of but one segment. Comparative study, however, has shown that it is composed, not of one, but of several segments. The exact number is perhaps four, although this is not entirely certain.

Prof. Comstock has adopted a convenient classification of the parts of the head, which we cannot do better than follow here. He divides the parts of the head into fixed parts and movable parts.

The fixed parts are the *compound eyes*, the *simple eyes*, the *occiput*, the *epicranium*, the *clypeus*, and the *gula*.

* In the technical language of Comparative Biology, *homologous* refers to *anatomical* similarity, *analogous* to *physiological* similarity.

The movable parts are the *antennæ* and the *mouth parts.*

The compound eyes (fig. 1, *a*) are quite conspicuous, and usually are easily seen and recognized as eyes. They are two in number, and are placed one on each side of the head. The surface of each compound eye is made up of a large number of hexagonal facets, fitting against each other like the cells of a honey-comb. Each facet is the cornea of a distinct simple eye. The number of facets in the compound eyes of different insects varies from 50 to 30,000 (Comstock). Sometimes the facets are quadrangular (Packard).

The simple eyes (fig. 1, *e*) are small and not very conspicuous. They are placed on the top (dorsal* surface) of the head, between the compound eyes. Ordinarily there are three simple eyes, but their number varies from one to four; they are usually wanting in beetles. Compound eyes are clusters of simple eyes. Larvæ have only simple eyes, situated on the sides of the head. During growth they "increase in number, and finally coalesce to form the compound eye, or compound cornea, the surface of which is very convex and protuberant in the predaceous insects, or those requiring an extended field of vision (Packard's Guide)." Usually the compound eyes are referred to as simply "the eyes," while the simple eyes are termed *ocelli* (singular *ocellus*) or *stemmata* (sing. *stemma*).

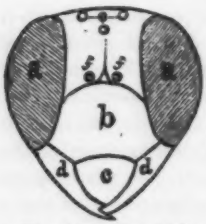

Fig. 1, Front view of the Head of a Wasp.

a, *a*, the compound eyes; *b*, the clypeus; *c*, the labrum; *d*, the mandibles; *e*, three ocelli, or simple eyes; *f*, *f*, places of insertion of antennæ. The letter *e* is placed upon the vertex, *f f* upon the frons.

The occiput is the rear or base of the head, and articulates with the first segment of the thorax.

The epicranium (fig. 1) is in front of the occiput, and, in general, forms the top or dorsal portion of the head, but it very often forms part of the sides of the head and even of the under (ventral) surface. On account of its extent, names have been given to different parts of the epicranium. The *vertex* is its topmost (most dorsal) part, the *front* or *frons* is its most anterior part, the *genæ*, or cheeks, its sides, or lateral parts. The ocelli are usually situated on the vertex.

* When an insect is standing in natural position, its upper surface is *dorsal*, its lower surface *ventral*.

The normal position of the clypeus (fig. 1, *b*) is anterior to the epicranium. Typically, it is composed of two sclerites, the *hind-*, *post-*, or *supra-clypeus*, and the *fore-*, *ante-*, or *infra-clypeus*. The term *epistoma* is equivalent to clypeus. In some insects the equivalent of the clypeus is composed of two pieces, an upper called *nasus*, and a lower or *rhinarium*; again the rhinarium may be absent. To the lower or anterior border of the clypeus is attached the labrum, or upper lip.

The gula is in front of, or below the occiput, and is confined to the under or ventral surface of the head. To its anterior border is attached the labium, or lower lip.

The sutures between the fixed parts of the head may be wanting, and the shape and extent of the parts vary greatly. In many insects the fixed parts, excepting the eyes and ocelli, are more or less covered with hair, so that the shape of the parts cannot be seen until the hair is removed. P. P. C.

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Two Species of Lepidoptera new to our Lists.

BY HARRISON G. DYAR.

While at Lake Worth, Florida, last Winter I captured specimens of two species not in our lists. They are the following:

Callidryas statira Cram.—The ♂ is of the color of *C. eubule*, but the border of raised scales extends more than half way across the wing, and there is a large spot of these scales in the end of the cell. The inner edge of this border is nearly straight, and it is very pale yellow, almost white. On the hind wings the border is narrower, more irregular, and ends before the anal angle. Below much as in *C. eubule* ♂, but with only faint traces of any spots.

Taken with *Callidryas eubule* and *C. agarithe*, but less common. January.

Composia fidelissima Herrich-Schaffer.—♂ ♀. Head black, with two white spots. Collar and thorax black, with small white spots. Abdomen black, with a very strong blue reflection and a double row of small white spots on the last segments in the ♂. Below neatly banded with white; wings black, a strong blue reflection at the base and end of the cell of primaries and on basal two-thirds of secondaries. On costa of primaries at base are

three subquadrate, crimson spots, more or less confluent. In the cell are two white spots, the outer continued on to the costa, but interrupted by the vein. A marginal and a transverse row of white spots, the latter from costa beyond cell to middle of outer margin composed of five spots the last small. The marginal row starts on costa before apex and has four intervenular spots, each nearer the outer margin than the last, and two more spots below, the last above the submedian vein, the one before it large and round. A small spot at base of the wing above submedian vein. The secondaries have a marginal row of nine white spots, the first at the apex, the fourth and the ninth at basal angle, small. Below as above, but the blue reflection on primaries is more extensive. Legs marked and banded with white.

This Zygænid was taken abundantly towards evening flying with *Syntomeida epilais* Walk., than which it was much more abundant.

The flora of the strip of land between Lake Worth and the ocean, as well as that between Indian River and the ocean partakes of a decidedly subtropical character, and many Cuban species find their homes here, of which the occurrence of the abovementioned species is an example.

DESCRIPTION OF THREE NEW SPECIES OF HYMENOPTERA.

BY WILLIAM J. FOX.

Hoplisus foveolata n. sp.

♀.—Black, shining; head sparsely punctured, hardly as wide as the thorax; clypeus, labrum, basal half of mandibles, scape, first six joints of flagellum, thorax, spots on posterior tarsal joints near apex, and basal segment of abdomen, except ring at apical margin, dark reddish brown; clypeus covered with silvery pubescence in certain lights, with long golden hairs; labrum with a fringe of golden hairs on anterior margin; face with a distinct furrow extending from the lower ocellus to the middle of the face; metathorax feebly punctate, covered with pale brownish pubescence, a deep longitudinal furrow extending from base to apex, interrupted at tip of enclosed triangular space by a deep fovea, the oblique lateral furrows enclosing the triangular space foveolate; wings fuliginous-brown, iridescent; second recurrent

nervure received by the second submarginal cell before its apex; line on anterior orbits, apical margin of scutellum, tarsi, and ring on apical margin of basal segment, yellowish; remaining segments of abdomen black. Length .55–.60 inch.

Two specimens, Florida. Collected by Charles W. Johnson, of the Wagner Institution, Philadelphia.

This species resembles somewhat *H. Smithii* Cress., from Illinois, but the wings are darker, the second recurrent nervure is not confluent with the second transverse cubital nervure and the basal segment with the largest portion of it brownish.

Philanthus eurynome n. sp.

♀.—Black, shining, deeply, but not closely punctured; vertex, cheeks, thorax on sides and beneath covered with pale pubescence; spot on anterior part of raised space between antennæ, sides of face, narrowed to emargination of the eyes; mandibles, except tip, scape, elongate spot beneath anterior wings, tegulæ, postscutellum, large lateral spots on second segment, elongate spots on third and fourth, the latter with two elongate marks on apical margin yellow; first three joints of flagellum entirely and the remaining joints beneath, raised space between antennæ basally, broad band on occiput extending down to the centre of the cheeks, line on collar, scutellum, first segment, except extreme base, above and beneath, second segment above and apical margins of all the segments dark reddish brown; the first dorsal segment with a deep, black, transverse furrow before its apical margin, the second having a black line before its apical margin; metathorax with a deep furrow extending from base to centre, where it is interrupted, the furrow continuing from a deep fovea and extending almost to the apex; wings yellowish hyaline, with darker apical margins, slightly iridescent, nervures and stigma yellowish brown, first recurrent nervure received by the second submarginal cell at the middle, the second received by the third submarginal cell a little beyond the base; legs brownish, a spot in front and on tips of anterior femora, base of anterior tibiæ and medial tibiæ in front and at base yellow. Length .57 inch.

One specimen. Collected by Mr. C. W. Johnson, in Florida.

Cœlioxys dolichos n. sp.

♀.—Black, shining; head and thorax sparsely punctured; sides of the face, cheeks, thorax beneath, metathorax, legs, basal

and apical margins of first segment and apical margin of the second, third and fourth segments with pale pubescence; tegulæ impunctured; prothorax produced into a tooth laterally; scutellum produced out over the metathorax in a sharp angle, the lateral teeth long, not acute, the disc of scutellum smooth, shining, impunctured; basal third of wings hyaline, the remaining two-thirds fuscous, slightly iridescent; first recurrent nervure received by the second submarginal cell beyond its base, the second recurrent nervure received by it before its apex; spines of the tibiæ and the tarsi slightly brownish; abdomen sparsely punctured, more closely so on the sides, basal and apical margins of the segments, basal segment concave in front, a distinct carina, beginning at the base of the second dorsal segment and extending to apex, the carina very strongly marked on apical half of last segment, the latter excavated on each side of the carina, compressed before its apex, beneath also carinated, the carina extending out into a point, which is plainly seen from above, the segments beneath with a well marked impunctured apical margin. Length .55 inch.

One specimen, Collected by Charles W. Johnson, in Florida.

This species can at once be distinguished by the carina on the dorsal segments of abdomen.

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SOME EXPERIENCES IN LARVÆ REARING.

BY ROBERT BUNKER.

If one wishes to gain a knowledge of the life history of a species, it is absolutely necessary to begin with the egg and follow it carefully through the different stages to the imago; and not only one season should be devoted to it, but the same species should be reared several years in succession in order to learn all the varieties of color ornamentation and deviations from the typical form. Such a course would be to the student or beginner like the turning of the kaleidoscope, every turn would bring to view some new variety, some new form, some new feature he had not seen before; and occasionally a veritable monstrosity would come to the front and startle him by its unique appearance. There are other advantages to be gained by rearing moths and butterflies from eggs, you get rid of that bane of the collector—the insidious parasite. One also stands a far better chance of getting rare spe-

cies, and we may add more perfect ones than by hunting up the imagos. I began rearing moths from eggs many years ago, but confined myself to eggs of foreign silk moths which I could obtain in no other way. Fortunately, a few years ago I found a female *Smerinthus modestus* on the Lombardy Poplar, she laid quite a number of eggs, from which I reared moths and wrote a description of their life history, which was published in the "Canadian Entomologist" at the time, so it is not necessary to re-write it now, but will mention one characteristic I have not noticed in any other species. While feeding, most larva clasp the leaf with their prolegs and manipulate with the mouth and true legs, the body being on a line with the edge of the leaf, but this species, while feeding, rests with its body stretched out at right angles to the edge of the leaf, and by reaching over and turning the head so as to face the edge of the leaf, feeds without inconvenience and as the leaf is eaten away moves up and down laterally. I was curious to know what the result would be when the leaf was eaten, so that there was no standing room, but the difficulty was overcome by abandoning the leaf when half eaten for a fresh one.

A larva that has been attacked by pararsites may sometimes be resuscitated. On one occasion I found a half grown larva of *Thyreus Abboti* on the grape vine, and on the sides of the thorax were half a score or more of eggs; they had hatched out and the young worms had entered the body of their victim, but as the shells of the eggs had been recently broken I thought I would try the effect of chloroform upon the larva, so procuring a feather I swabed the parts thoroughly. Now, it is well known that this species and *Deidamia inscripta* are very sensitive to the touch, and will wriggle around in a vicious manner if touched with a straw or the tip of the finger, but when I applied the chloroform its contortions were violent, a regular cyclone; so violent were its movements that it would throw itself up clear from the earth at the bottom of the cage, and I began to fear the cage itself was in danger of being wrecked. It finally subsided and appeared to be dead. Two hours later, on looking into the cage, I found my sick patient had rallied and was crawling slowly about. I gave it another big dose, and after placing some fresh grape leaves in the cage, left it for the night. The next morning, to my surprise, it had fully recovered, and was apparently as well as ever, and

was partaking of the aliment set before it in a very satisfactory manner. After the harsh treatment it had received it began to feed regularly, and in two weeks got its growth, buried itself, and came out a perfect moth the following June.

(To be continued.)

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

In the future all papers received for publication in the News will be printed according to date of reception.

IN accordance with the notice on second page of cover, no numbers of ENTOMOLOGICAL NEWS were published in July and August, as every one is interested in collecting, and it is also the time when people take their vacation, the editior and advisory committee included. This is inserted for those who were looking for the NEWS during the last two months.

A SPECIMEN of *Papilio palamedes* was captured in Philadelphia this Summer, it was bright and fresh. Virginia is the northermost point given in the catalogues.

A SWARM of butterflies halted near Placerville, Cal., the other day, and for a time "they were so thick about the springs and moist places that teamsters couldn't see their leaders."

HEMIPTEROLOGISTS will be interested to know that I took many specimens of both sexes of the winged form of *Metrobates hesperius* Uhl. on the Tennessee River at Knoxville, Tenn., June 15th. Hitherto, I believe, the winged form of this species has been found only in the West Indies.

Prof. H. E. SUMMERS.

MR. W. F. KIRBY, author of "A Synonymic Catalogue of Diurnal Lepidoptera," will publish, shortly with Messrs. Gurney & Jackson, "A Synonymic Catalogue of Neuroptera Odonata," or Dragonflies. He hopes to bring out afterwards the first volume of his "Catalogue of Lepidoptera-Heterocera," a work which has engaged his attention for nearly twenty years.

AS TO FLIES.—So you want to know where the flies come from, do you, Lucullus? Well, the cyclone makes the house fly, the blacksmith makes the fire fly, the carpenter makes the saw fly, the driver makes the horse fly, the grocer makes the sand fly, the boarder makes the butter fly, and if that is not enough for you you will have to pursue your future studies in entomology alone.

PROF. ANGELO HEILPRIN found two species of butterflies buried in the snow on the glacier he discovered on the volcano of Ixtaccihuatl in Mexico. There was a snow storm the previous night and the butterflies were evidently blown up to this height (15,500 feet). The species were *Colias cæsonia* and *Terias sp.* The specimen of *Terias* was in too bad a condition to identify.

MR. PHILIP LAURENT found *Pamphila panoquin* fresh and bright on June 29th, at Anglesea, N. J. He succeeded in getting the eggs. but the larvæ would not feed on ordinary grass. There is another brood on the Atlantic coast which appears about August 22d, having been found at this time at Cape May, N. J., by Dr. Skinner. The food-plant is supposed to be marsh grass which grows in the salt meadows.

THE FIELD MEETING AT JAMESBURG, N. J.—A field meeting of the entomological societies of Brooklyn, Newark and Philadelphia, was held on July 4th at Jamesburg, N. J. The societies represented were the Feldman Collecting Club, American Entomological Society and Entomological Section of the Academy of Natural Sciences from Philadelphia, and the Entomological Societies of Brooklyn and Newark. Jamesburg is situated in the Cranberry bog region of New Jersey, and is a very interesting locality entomologically. The headquarters of the meet was a very pretty grove, from which the members spread out in various directions in search of bugs. The object of the meeting was the fostering of scientific and social intercourse among the entomologists of the three cities. The Feldman Collecting Club was represented by Messrs. J. H. B. Bland (President), Wenzel, Dr. Castle, Laurent, E. Wenzel, Boerner, Hoyer, Schmitz and Tresher, and the American Entomological Society and Entomological Section of the Academy of Natural Sciences by Mr. I. C. Martindale, Dr. G. H. Horn and Dr. H. Skinner; Brooklyn, by Messrs. Meeske, Leng, Davis, Dietz, Harbeck, Merkel, Beyer, Smith and Banks; Newark, by Messrs. Machesney, Stortz, Angelman, Loeffler, Hess, Leib and Crane. After collecting for a couple of hours a luncheon was served in the grove and a photograph taken of the party. A meeting was then called to organize permanently. Dr. George H. Horn, President of the American Entomological Society and Professor of Entomology in the University of Pennsylvania, was chosen chairman. The chair nominated the following committee to confer with their respective societies in regard to the advisability of holding an annual meet and to select the time and place. Mr. H. W. Wenzel, of the Feldman Collecting Club; Professor J. B. Smith, State Entomologist of New Jersey and Professor of Natural History in Rutgers College, for the Brooklyn Society; Mr. Machesney, of Newark, and Dr. Henry Skinner, Curator of the American Entomological Society of Philadelphia. Altogether, a very pleasant day was spent and the first meeting was a grand success.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of specimens to be limited to twelve (12) for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Such identifications as can be given will be published, according to number, in the issues of the NEWS. Address packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

W. M. HILL.—1., *Sphenophorus 13-punctatus;* 2, *Hister interruptus;* 3, *Elater rubricollis;* 4, *Gastrophysa cyanea;* 5, *Chrysopila thoracica;* 6, *Languria mozardi;* 7, *Megilla maculata;* 8, *Chlænius æstivus;* 9, *Lebia grandis;* 10, 11, *Chauliangnathus marginatus;* 12, *Chalænius tomentosus.*

W. LOEWENSTEIN, JR.—1, *Passalus cornutus;* 2, *Necrophorus americanus;* 3, *Calosoma Willcoxi;* 4, *Nyctobates pennsylvanicus;* 5, *Megalodacne fasciata;* 6, *Tenebrio tenebrioides;* 7, *Cucujus clavipes;* 8, *Catogenus rufus;* 9, *Chalænius solitarius;* 10, *Harpalus caliginosus;* 11, *Diplochila major;* 12, *Dicælus elongatus.*

Entomological Literature.

BULLETIN FROM THE LABRATORIES OF NATURAL HISTORY OF THE STATE UNIVERSITY OF IOWA contains: A Monograph of the Pselaphidæ of North America, by E. Brendel, M.D., and H. F. Wickham, vol. i, Nos. 3 and 4, June, 1890; 88 pages and 4 plates, 77 figs. Such works as these are very important, and greatly facilitate study. The authors say: "In preparing this monograph we hope to aid students of this large and interesting family, by sufficiently minute descriptions and synoptical tables, to recognize any species known to the fauna of the United States and British America, and to see the affinities of American species to the members of this family in other lands."

CONTRIBUTIONS TOWARD A MONOGRAPH OF THE NOCTUIDÆ OF TEMPERATE NORTH AMERICA.—Revision of some Tæniocampid Genera by John B. Smith. From Proc. U. S. National Museum vol. xii, pp. 455–496. A comparative table of genera is given, and the genera and species described. Two plates and two figs. are given, showing the genital structure of the TÆNIOCAMPINÆ.

PROCEEDINGS OF THE BOSTON SOCIETY OF NATURAL HISTORY, vol. xxiv, p. 482. The Life-history of *Drepana arcuata*, with remarks on certain structural features of the larva and on the supposed dimorphism of *Drepana arcuata* and *Dryopteris rosea* by Alpheus S. Packard.

BULLETIN AGRICULTURAL EXPERIMENT STATION OF NEBRASKA, vol. iii, art. 2. Insects Injurious to Young Trees on Tree Claims, by Lawrence Bruner, pp. 141. This essay is largely illustrated, and gives a history of the more important insects injurious to trees.

TRANSACTIONS KANSAS ACADEMY OF SCIENCE, vol. xiii, pt. 1, 1889, p. 15. Note on the Oviposition of a Wood Borer (*Tragidion fulvipenne*) by Prof. E. A. Popenoe, p. 34. Experiments for the Artificial Dissemination of a Contagious Disease among Chinch-bugs, by Prof. F. H. Snow. Some Notes on the MALLOPHAGA by Vernon L. Kellogg.

PROCEEDINGS AND TRANSACTIONS OF THE NATURAL HISTORY SOCIETY OF GLASGOW, vol. ii, pt. 2. Parthenogenesis in HYMENOPTERA by P. Cameron. A Contribution towards a Neuropterous Fauna of Ireland by James J. F. X. King.

MARYLAND ACADEMY OF SCIENCES, 1890, pp. 73–88. Observations of North American CAPSIDÆ, with descriptions of new species, by P. R. Uhler. *Ectopiocerus*, new genus; *E. anthracinus*, n. sp.; *Teleorhinus*, new genus; *T. cyaneus*, n. sp.; *Closterocoris*, new genus; *C. ornata*, n. sp.; *Coquillettia*, new genus; *C. insignis*, n. sp.; *Xenetus regalis*, n. sp.; *X. scutellatus*, n. sp.; *Rhinocaspis*, new genus; *R. Van Duzeii*, n. sp.; *Mimoceps*, new genus; *M. insignis*, n. sp.; *M. gracilis*, n. sp.; *Macrotylus regalis*, n. sp.; *M. tristis*, n. sp.; *M. vestitus*, n. sp.

ICONES ORNITHOPTERORUM.—A Monograph of the Rhopalocerous Genus Ornithoptera, pt. 2. This contains figures, descriptions, etc., of *O. richmondia*, *O. Plateni* and *Brookeana*. We regret to see this subgenus cut up into subgenera. When in time we have a genus for every species we can conveniently drop generic names.

THE ENTOMOLOGIST, London, July, 1890.—COLEOPTERA collected by Mr. Pratt on the Upper Yang-Tsze, and on the borders of Tibet, by H. W. Bates. Descriptions of new species of PHYTOPHAGOUS COLEOPTERA received from Chang-Yang, China, by Martin Jacoby. Contributions to the Chemistry of Insect Colors, by F. H. Perry Coste. Two days' collecting in Normandy, by John Henry Leech. Contributions to the Entomology of the Portsmouth District, by W. T. Pearce. A successful Moth-trap, by W. M. Christy. Entomological Notes, Captures, etc. Doings of Societies.

BULLETIN OF THE OHIO AGRICULTURAL EXPERIMENT STATION, vol. i, No. 1, 1889.—Preparatory Stages of the 20-spotted Lady bird. Studies in Pond Life. 1st, On the Life-history of *Arzama obliquata;* 2d, On the Life-history of *Chauliodes rastricornis;* 3d; On the Life-history of *Listronotus latiusculus;* 4th, On the Feeding-habits of *Zaitha fluminea;* 5th, On the Feeding-habits of *Notonecta undulata;* 6th, On Aquatic Leaf beetle (*Donacia subtilis*); 7th, An Aquatic Lady-bird (*Hippodamia 13-punctata*); 8th, On the Eggs of the Giant Water Bugs (*Belostoma americanum* and *Benacus griseus*). A Partial Bibliography of Insects Affecting Clover, by Clarence M. Weed.

PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF LONDON, pt. 4, 1889.—On new Indian LEPIDOPTERA, chiefly HETEROCERA, by Col. C. Swinhoe. On the LEPIDOPTERA of Japan and Corea.—Part 3, HETEROCERA, Sect. 2, Noctues and Deltoides, by J. H. Leech.

TRANSACTIONS, PROCEEDINGS AND REPORT OF THE ROYAL SOCIETY OF SOUTH AUSTRALIA, vol. xii, for 1888–89. Description of a new genus and species (*Hectoria pontoni*) of Locustidæ, by J. G. O. Tepper. Further Notes on Australian COLEOPTERA, with descriptions of New Species, by Rev. T. Blackburn.

ENTOMOLOGISCHE NACHRICHTEN, vol. xvi, 10, May, 1890.—Studies on Ichneumonidæ,* by Dr. Kriechbaumer; *Ischnogaster* n. gen.

NATURALISTE CANADIEN, May, 1890.—HEMIPTERA-HOMOPTERA of Quebec; Fam. Tettigonidæ, with 1 plate and Additions and Corrections; *Deltocephalus superbus*, *D. chlamidatus*, *Thyphlocyba unica* n. sp.

NATURALISTE CANADIEN, June, 1890, gives a list of insects from the Madeleine Isles, including the following new species: *Anax maritimus* (no description), *Ichneumon magdalensis*, *Glypta tricincta*, *Eubadizon basilare*.

COMPTES-RENDUS DES SEANCES DE LA SOCIETE ENTOMOLOGIQUE DE BELGIQUE, April 5, 1890.—Ethiopian Rhynchota,* by W. L. Distant. *Sandehana* n. gen.

COMPTE RENDU, SOCIETE ENTOMOLOGIQUE DE BELGIQUE, June 7, 1890. —Aenictus-Typhlatta, discovered by M. Wroughton, New Genera of Formicidæ,* by A. Forel. New genera: *Huberia* (type *striata* Smith), *Triglyphothrix* (type *T. Walshi* n. sp.), *Trigonogaster* (type *T. recurvispinosus* n. sp.), *Emeryia* (type *E. Wroughtonii* n. sp.), *Ophthalmopone* (type *O. Berthoudi* n. sp.). The new species are from India and South Africa.

SPECIES DES HYMENOPTERES D'EUROPE ET D'ALGERIE, E. André, 36e fascicule, July 1, 1890, pp. 493–572, of vol. iv, 4 pls. Treats of the genera *Microplitis*, *Microgaster*, *Elasmosoma* and *Agathis*.

TIJDSCHRIFT VOOR ENTOMOLOGIE (Hague), xxxii, 3d Afl., 1889.—The spiral muscle and the vesicle of the palpi of male spiders, by A. W. M. Van Hasselt, 2 plates. Systematic and Synonymic Catalogue of the Neuroptera observed in the Low Countries and their borders, by H. Albarda. Some notes on Cidaria and other Lepidoptera, by P. C. T. Snellen.

ANNALES DE SCIENCES NATURELLES, 58e Annee, VIIe Serie, ix, 1.—Memoir on the venom and sting of the Bee, by Dr. G. Carlet, 1 pl. Zoological and anatomical monograph of the genus *Prosopistoma* Latr., by A. Vayssiere, 1 plate.

ARCHIV FUR MIKROSKOPISCHE ANATOMIE xxxv, heft 2.—The Development of the Wall Bee (*Chalicodoma muraria* Fabr.) in the Egg, by J. Carriere, 2 plates.

MEMOIRES DE LA SOCIETE ROYALE DES SCIENCES DE LIEGE, Series 2, xvi, April 1890.—Alphabetical Repertory of the specific names admitted or proposed in the subfamily Libellulinæ, with bibliographic, iconographic and geographic references, by A. P. de Borre.

* Contains new species other than North American.

A NEW METHOD of rearing the Silk Worm (*Bombyx mori* L.) on a herbaceous plant, by Dr. C. O. Harz, Stuttgart, 1890. The plant is *Scorzonera hispanica* L.

Doings of Societies.

PHILADELPHIA, MAY 22, 1890.—A regular meeting of the Entomological Section of the Academy of Natural Sciences was held at the Hall S. W. cor. 19th and Race Streets. Meeting called to order at 8.20 o'clock. Mr. Martindale in the chair. Members present: Ridings, Cresson and Skinner. Associates: Calvert, Fox, Westcott, Seeber, Castle and Welles. Mr. Calvert stated that he had recently caught a male specimen of *Anomalagrion hastatum* Say, for which species he had been on the lookout for three Summers. It can readily be distinguished from all others by the anomalous shape of the pterostigma of the anterior wing, which is also separated from the anterior margin. The specimen was caught in Delaware County, Pa. Mr. Seeber exhibited specimens of the rare and pretty beetle, *Buprestis ultramarina*, which he had found near Red Bank, N. J.; also a specimen of *Belostoma americanum*. Mr. Martindale called attention to some cocoons of *Callosomia promethia*, which were found on Wild Cherry, and which were peculiar and interesting on account of their very small size. The cocoons had disclosed a pair of moths which were about one-third smaller than normal specimens. He discussed their possible relation to *angulifera*, and the full sized form of the species. Mr. Welles spoke of the habits of allied species in regard to the spinning of cocoons. Dr. Skinner described a caterpillar (unknown species) collected by Mrs. J. P. Ballard, at Easton, Pa. Mr. Blake thought it might be *Ceratomia amyntor*.

JUNE 9, 1890.—Meeting called to order at 8.30 o'clock. Director Dr. G. H. Horn presiding. Members present: Martindale, Laurent, Ridings and Skinner. Associates: Calvert, Liebeck, Fox, Castle and Haimbach. The reports of the joint publication and the executive committees were read and received. The committee reported favorably on papers Nos. 237 and 238. Donations to the Library were read. Verbal communications being in order, Dr. Horn stated that he had lately been engaged on a study of the EUCNEMINÆ of Mexico and southward, the results of which were to be published in the "Biologia Centrali Americana." They are very rare, and usually but few species represented in collections. Being so rare and difficult to study, very few have attempted it. He remarked, in addition, that he had twenty-four types of Bonvouloir and all but three or four of the forty-two species known, which latter number would probably be doubled. The meeting adjourned to meet on the fourth Thursday in September.

HENRY SKINNER,
Recorder.

ENTOMOLOGICAL SOCIETY OF WASHINGTON.—April 3, 1890. Mr. B. E. Fernow was elected an active member of the Society.

Mr. Fox read a paper on a small group of spiders forming the subgenus *Ceratinella* of the genus *Erigone*. The subgenus includes about seventeen species distinguished by the presence of a shield on the abdomen. All the specimens were collected east of the Alleghenies by Messrs. Marx and Fox, and were found fully developed at all seasons of the year. The paper was illustrated with drawings, and a collection of the spiders was shown. Discussion followed by Messrs. Marx and Fox.

Mr. Schwarz read a paper entitled "Labeling Specimens," in which he described the systems of labeling employed in the case of entomological collections, dealing particularly with the systematic collection of the specialist. The various labels employed were described, and examples of some of them were shown. The paper called forth considerable discussion, which was participated in by Messrs. Riley, Mann, Schwarz, Marx and Fox.

MAY 1, 1890.—The committee having in charge the preparation for publication of a list of the insect fauna of the District of Columbia, made a partial report, which was discussed at length.

The name of Mr. Townsend was added to the sub-committee on Diptera, and that of Mr. Marlatt to the sub-committee on Hymenoptera.

A revision of the sub-committees will be made at the next meeting.

Mr. Townsend read a list of eighty-seven species of Heteroptera collected by him in southern Michigan, with some brief notes and dates of occurrence. One species, *Corimelæna nitiduloides* Wolff, was taken in a nest of *Formica schaufussi* Mayr.

Mr. Townsend also presented a paper on "Some Insects affecting certain Forest Trees, mostly from Michigan," recording towards a hundred Coleoptera and a few of other orders, affecting either the foliage or the sound or decaying trunks of Oak, Hickory, Elm, Beech, Linden, Butternut, Ironwood (*Carpinus*), Willow, Hazel, etc.

These papers were discussed by Messrs. Schwarz and Riley.

Mr. Dodge read a paper on Artificial Silk, describing the Count de Chardonnet's method as exhibited at the late Paris Exposition of making from cellulose a substance closely resembling silk. A detailed account of the process of manufacture was given and illustrated with a figure of the device for producing the thread, and a sample of the silk was exhibited.

Discussions followed by Messrs. Philip Walker, Riley, Amory, Austin and others.

Mr. Marx presented some "Arachnological notes," in which he discussed the comparative anatomy of the spinning glands of spiders. The relation of those to the external spinning organs or spinnerets, and the importance of both in classification were explained. Careful drawings of the parts discussed were shown.

C. L. MARLATT,
Recording Secretary.

ENTOMOLOGICAL NEWS for June was mailed May 27, 1890.